

Notice of Allowability

Application No.

10/020,776

Examiner

ALEX NOGUEROLA

Applicant(s)

FRITSCH ET AL.

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/10/2006.
2. ☒ The allowed claim(s) is/are 1-7, 10-15, 17-26 and 32-43.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. *The application has been amended as follows:*

a) in line 4 on page 2 of the specification, between "2001," and "which" the following has been inserted -- abandoned, --;

b) in line 5 on page 2 of the specification, "was a continuation --in-part" has been replaced with -- claims priority from --;

c) in line 6 on page 2 of the specification "is" has been deleted;

d) in line 7 on page 2 of the specification, "a continuation --in-part" has been replaced with -- claims priority from --;

b) in line 9 on page 2 of the specification, between "1998," and "which" the following has been inserted -- abandoned, --; and

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f) in line 9 on page 2 of the specification, "is a continuation --in-part" has been replaced with -- claims priority from --.

Allowable Subject Matter

2. Claims 1-7, 10-15, 17-26, and 32-43 are allowed.

3. The following is an examiner's statement of reasons for allowance:

a) Claim 1: the combination of limitations requires the submicroelectrode layers to have an *embedded* electrode in the *entire* bottom of the cavity, such as bottom conducting layer 156 in Applicants' Figure 15. As stated by Applicants, "the recessed microdisk of the present invention is created out of a layer that has been deposited to cover the entire substrate, such that after creating the microcavity through the alternating conducting and insulating layers, the microdisk electrode covers the entire bottom of the microcavity." See page 13 of the Amendment of June 05, 2006.

In the embodiments of Figures 10-13 of Urban the electrode at the bottom of the cavity (1) is not in the entire bottom of the cavity nor is any portion of the

electrode embedded, except, perhaps, for a lead to connect the electrode to a measuring circuit. In these embodiments the electrode at the bottom of the cavity (1) is located in the middle of the bottom of the cavity and is spaced from the surrounding insulating wall (4).

b) Claims 2 and 15: the combination of limitations in each of these claims requires a disk electrode attached to an adhesion layer which is deposited on the substrate and covering the *entire* substrate and bottom of the microcavity and not used as a reference electrode. As stated by Applicants, "the recessed microdisk of the present invention is created out of a layer that has been deposited to cover the entire substrate, such that after creating the microcavity through the alternating conducting and insulating layers, the microdisk electrode covers the entire bottom of the microcavity." See page 13 of the Amendment of June 05, 2006.

In the embodiments of Figures 10-13 of Urban the electrode at the bottom of the cavity (1) is located on the substrate in the middle of the bottom of the cavity and is spaced from the surrounding insulating wall (4).

c) Claims 3-7 and 10-14 depend directly or indirectly from allowable claim 2.

d) Claims 17-26 depend directly or indirectly from allowable claim 15.

e) Claim 32: the combination of limitations requires that the microelectrode comprise a silicon wafer to act as a substrate and polyimide insulating layers to separate the conducting layers.

Urban is silent on possible materials for the substrate other than indicating that it be inert (last paragraph on page 14, for example ("insert" appears to be mistyped, see the previous paragraph on page 14)). Urban does disclose an embodiment having one or more silicon layers. However, in this embodiment the silicon layers are insulating layers (first full paragraph on page 18). Urban also indirectly discloses polyimide as an alternative to silicon for use in forming insulating layers because Urban discloses that if polyimide insulating layers are used then deep microcavities may be formed (last paragraph on page 17 bridging to page 18). In light of these disclosures of Urban one would either use silicon for the substrate and also the insulating layers or polyimide for the substrate and the also insulating layers. Also, claim 32 requires a microdisk electrode on the substrate and covering the bottom of the microcavity. In the embodiments of Figures 10-13 of Urban the electrode at the bottom of the microcavity (1) is located on the substrate in the middle of the bottom of the microcavity and is spaced from the surrounding insulating wall (4).

f) Claims 33-43 depend directly or indirectly from allowable claim 32.

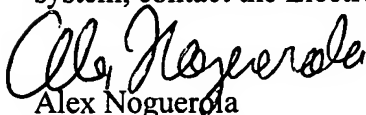
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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Nogueroles
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AU 1753
June 12, 2006